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CALIFORNIA'S NEED FOR TEACHERS, 1965-75.

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ESTIMATES OF TEACHER SUPPLY AND DEMAND IN CALIFORNIA ELEMENTARY AND SECONDARY SCHOOLS LEAD TO THE EXPECTATION OF AN AVERAGE ANNUAL DEFICIT OF 6,510 TEACHERS DURING THE 1965-75 PERIOD. THE DEFICIT (31 PERCENT OF THE DEMAND) WILL HAVE TO BE MET BY OUT-OF-STATE RECRUITING AND BY HIRING THOSE WHO DO NOT QUALIFY FOR REGULAR CREDENTIALS. MAJOR REDUCTIONS IN PROVISIONALLY CERTIFICATED PERSONS AND IN PUPIL-TEACHER RATIOS ARE UNLIKELY IN THE NEAR FUTURE. AT THE JUNIOR COLLEGE LEVEL, THE SUPPLY OF TEACHERS DURING THE 1965-75 PERIOD IS DIFFICULT TO PREDICT, ALTHOUGH DEMAND IS ESTIMATED AT 1,750 PERSONS ANNUALLY. ALSO DISCUSSED ARE THE EFFECTS ON TEACHER SUPPLY AND DEMAND OF CHANGES IN CERTIFICATION REQUIREMENTS, FEDERAL SUPPORT, LEGISLATIVE ACTION, COMPETITION FOR PERSONNEL FROM HIGHER EDUCATION AND BUSINESS, LEVEL OF FINANCIAL SUPPORT, LONG-RANGE RECRUITMENT PROGRAMS, NEW INSTRUCTIONAL MEDIA, AND ATTITUDES OF COLLEGE STAFFS TOWARD TEACHER EDUCATION. (FF)

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California's Need for Teachers

1965-1975

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STATE DEPARTMENT OF EDUCATION
MAX RAFFERTY, Superintendent of Public Instruction
Sacramento 1965

California's Need for Teachers 1965-1975

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FOREWORD

California schools offer high-quality educational programs that are sufficiently diversified to meet the needs of every child, youth, and adult. Their success in this endeavor is produced by professional staffs that are adequate and well trained. However, the phenomenal growth in population that the schools continue to experience is making it increasingly difficult for them to secure the professional help they need. And this difficulty will continue to mount unless concerted effort is made to develop the supply that is required.

I believe that the information presented in this publication makes apparent California's need for teachers. I urge every person who is in position to do so to use this information as a basis for counseling high school and college students regarding the opportunities that are open to them as professional staff members of California schools.

Max Rafferty

Superintendent of Public Instruction

PREFACE

This study of teacher supply and demand, made by the California State Department of Education, presents current and projected data which should be useful to school districts and colleges in California.

The California Department of Finance has predicted that for the 1974–75 school year, California will have to provide educational facilities and resources for more than 5.5 million children and youth in kindergarten and grades one through twelve. At that time almost half a million more students will be enrolled in grades thirteen and fourteen of the public junior colleges. Most important among the resources to be provided are the human resources—teachers and other educational personnel. To continue our program and service at the present level will require the preparation and recruitment of 215,240 elementary and secondary teachers and approximately 17,500 junior college teachers during the next decade.

The last section of this publication contains a discussion of factors that affect educational personnel resources, especially (1) change in certification requirements and (2) programs, policies, and procedures mandated by the Legislature. For example, these factors are all important in determining pupil-teacher ratios.

In the elementary schools, for instance, Californians would have to employ an additional 3,020 teachers for the 1965–66 school year to reduce the pupil-teacher ratio from the present 30.5 to 1 ratio to a 29.5 to 1 ratio. It is unlikely that these teachers could be employed at the legal minimum salary—$5,000—for regularly certificated teachers, but if they could, an expenditure in excess of $15,000,000 would be required. A similar reduction in the high school pupil-teacher ratio would cost at least $12,000,000 for the salaries for the 2,460 teachers.

The next decade of the twentieth century may well have an importance in the development and retention of educational personnel resources exceeding that of any other decade in California's history. The attainment of California's goals of quality education and maximum educational opportunity for all children and youth depends upon preparing, recruiting, and retaining the highest quality of educational personnel.

PAUL F. LAWRENCE
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Chief, Bureau of Teacher Education and Certification

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Demand for Certificated Personnel

This is the thirteenth study of supply of and demand for certificated personnel to serve in California's public schools.[1] The preceding study, made five years earlier, was based on data for the 1959–60 school year. This study is based on the 1964–65 school year.

The demand for certificated personnel was determined by using the following data: (1) the number of full-time certificated employees reported by county and district superintendents of schools; and (2) estimates, based on previous experience, of the number of new teachers who will be needed to replace those whose death, retirement, or resignation will create vacancies and estimates of those who will be needed to meet the demands of an increasing school population and expanding curricular offerings.

Number of Certificated Persons Employed

Data concerning the number and distribution of full-time teachers employed during each of the last five years are shown in Table 1. The number of teachers employed full-time for 1964–65 was 154,788. This was an increase of 9,196 or 6.3 percent over the number employed during 1963–64.

No current information is available concerning the number of persons employed as substitutes or part-time teachers. In prior years when this information was available, the number of substitutes was equal to approximately 10 percent of the full-time staff.

The total number of full-time certificated personnel employed in 1963–64 was 165,915. Information for nonteaching personnel employed in 1964–65 was not available at the time of this study. The total full-time staff of 1963–64 increased 9,744 or 6.2 percent over the number employed during 1962–63. The distribution of full-time staff among various levels and specialties for the four-year period from 1960–61 through 1963–64 is shown in Table 2. Total staff increased by 18.4 percent during that time. The greatest proportionate increase was in the category of building principals, vice-principals, and deans: 21.2 percent. The smallest proportionate increase, 8.6 percent, occurred in the category of district and county administrators and supervisors.

Significant is the 50.8 percent increase in counselors during the period covered by Table 2, by far the greatest increase in a single specialty area. Other above-average proportionate increases were registered among librarians, 25.6 percent, followed closely by junior col-

[1] The term "certificated personnel" or "certificated persons," as used in this study, refers to classroom teachers, supervisors, administrators, and other persons employed in positions requiring certification.

Table 1

Number and Percent Distribution of Full-Time Teachers, 1960–61 Through 1964–65

School level	1960–61		1961–62		1962–63		1963–64		1964–65		Increase from 1960–61 to 1964–65	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Elementary	73,412	59.9	76,879	59.6	80,890	58.8	84,702	58.2	88,982	57.5	15,570	21.2
High school	44,088	35.9	46,643	36.1	50,539	36.8	54,426	37.4	58,512	37.8	14,424	32.7
Junior college	5,150	4.2	5,542	4.3	6,074	4.4	6,464	4.4	7,294	4.7	2,144	41.6
Total	122,650	100.0	129,064	100.0	137,503	100.0	145,592	100.0	154,788	100.0	32,138	26.2

Table 2

Number and Percent Distribution of Certificated Personnel Employed in Each of Several Years According to School Level or Specialization [1]

School level or specialization	1960–61		1961–62		1962–63		1963–64		Percent increase over 1960–61
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Teachers									
Elementary	73,412	52.4	76,879	52.2	80,890	51.8	84,702	51.0	15.4
High school	44,088	31.4	46,643	31.7	50,539	32.4	54,426	32.8	23.4
Junior college	5,150	3.7	5,542	3.8	6,074	3.9	6,464	3.9	25.5
Subtotal	*122,650*	*87.5*	*129,064*	*87.7*	*137,503*	*88.1*	*145,592*	*87.7*	*18.7*

Special service personnel									
Counselors	1,731	1.2	2,064	1.4	2,222	1.4	2,610	1.6	50.8
Nurses	1,926	1.4	1,937	1.3	1,987	1.3	2,044	1.2	6.1
Librarians	985	0.7	1,102	0.7	1,118	0.7	1,237	0.7	25.6
Psychologists	363	0.3	392	0.3	394	0.3	434	0.3	19.6
Others	1,342	1.0	1,198	0.8	798	0.5	967	0.6	—27.9
Subtotal	*6,347*	*4.5*	*6,693*	*4.5*	*6,519*	*4.2*	*7,292*	*4.4*	*14.8*
Building principals, and deans[2]									
Elementary	4,294	3.1	4,474	3.0	4,573	2.9	5,315	3.2	23.8
High school	2,355	1.7	2,442	1.7	2,667	1.7	2,751	1.7	16.8
Junior colleges	297	0.2	318	0.2	309	0.2	351	0.2	18.2
Subtotal	*6,946*	*5.0*	*7,234*	*4.9*	*7,549*	*4.8*	*8,417*	*5.1*	*21.1*
District and county administration staff									
District consultants[3]	1,820	1.3	1,847	1.2	2,057	1.3	2,049	1.2	12.6
County consultants[3]	627	0.4	619	0.4	645	0.4	646	0.4	3.0
Superintendents and business managers[4]	1,800	1.3	1,856	1.3	1,898	1.2	1,919	1.2	6.6
Subtotal	*4,247*	*3.0*	*4,322*	*2.9*	*4,600*	*2.9*	*4,614*	*2.8*	*8.6*
Total certificated personnel	140,190	100.0	147,313	100.0	156,171	100.0	165,915	100.0	18.4

[1] From Bureau of Education Research reports of *Salaries of Certificated Employees in California Public Schools* for these years. Junior high school teachers are included in high school figures, and a few (less than 100) classified persons may be included in business manager category.
[2] Includes vice-principals.
[3] Includes supervisors, directors, coordinators, and the like.
[4] Includes assistant, associate, and deputy superintendents.

lege teachers, 25.5 percent. It is important to note the changes which are taking place in the distribution of the teaching staff as a result of the school population tide flowing into high schools and junior colleges.

Persons Newly Employed on the Basis of Provisional Credentials

Beginning January 1, 1964, provisional credentials were granted initially only on the basis of new standard teaching credentials. While a sizable number of teachers were serving in 1964–65 on old-type provisional credentials, information about the exact number is not known. Table 3 shows the number of teachers serving by county of employment in elementary and high schools on the basis of new emergency provisional standard credentials. Various factors resulting from the implementation of the new credential structure make it impossible to compare these data with those of previous years. It should be remembered, however, that the trend under old-type provisional credentials was a regular and consistent decrease at the elementary level and a regular and consistent increase at the high school level.

Not included in Table 3 are three provisional standard credentials issued for junior college service. Two were issued in Kern County, and one was issued in Los Angeles County, which would make a grand total of 681 emergency provisional standard credentials for the 1964–65 school year. The 681 provisionally credentialed teachers constituted less than one half of one percent of the 154,788 teachers serving during 1964–65. Counties have been listed in order of the percent of teachers serving on provisional credentials, providing prima facie evidence of the problems faced by rural and remote areas of the state.

Certificated Personnel Needed in Elementary and High Schools

Population studies by the California State Department of Finance predicted that in the fall of 1965, the elementary and high schools of California's public school system would enroll 4,257,970 pupils. This would be an increase of approximately 168,627 pupils and would require employment of 6,880 additional new certificated personnel in 1965.

Each year during the period 1957 through 1962, all district superintendents of schools were asked to report the number of certificated persons on their staffs who had resigned, retired, died, requested leaves of absence, transferred to other California districts, or had been dismissed. On the basis of these reports, approximately 8.3 percent of the teachers employed during any school year will not be available the next year for employment in teaching positions in California, and an additional 7.5 percent will move from one California district to another. Of the 8.3 percent of a current year's staff replacements, 4

Table 3

Number and Percent of Teachers Serving on Emergency Provisional Standard Credentials in Various Counties, 1964–65

County	Type of elementary credential			Type of high school credential			Total credentials, elementary through high school		
	Regular	Provisional	Percent	Regular	Provisional	Percent	Regular	Provisional	Percent
Alpine	4	--	--	--	--	--	4	--	--
El Dorado	271	--	--	120	--	--	391	--	--
Nevada	93	--	--	75	--	--	168	--	--
Plumas	66	--	--	68	--	--	134	--	--
San Diego	5,321	--	--	3,684	--	--	9,005	--	--
San Francisco	1,747	--	--	2,002	--	--	3,749	--	--
Alameda	4,550	--	--	3,517	1	*	8,067	1	*
Orange	6,272	4	*	3,468	5	0.14	9,740	9	*
Sacramento	3,109	2	*	2,135	3	0.14	5,244	5	*
Santa Clara	5,769	4	*	2,616	1	*	8,385	5	*
Contra Costa	2,831	3	0.11	2,119	5	0.23	4,950	8	0.16
Los Angeles	27,522	61	0.22	21,008	19	*	48,530	80	0.16
Napa	304	1	0.33	261	--	--	565	1	0.18
San Mateo	3,079	8	0.26	1,416	3	0.21	4,495	11	0.24
San Luis Obispo	483	--	--	316	2	0.63	799	2	0.25
Yolo	470	--	--	261	2	0.77	731	2	0.27
Tehama	179	--	--	90	1	1.11	269	1	0.37
San Joaquin	1,345	8	0.59	856	--	--	2,201	8	0.36
Santa Barbara	1,264	4	0.32	826	4	0.48	2,090	8	0.38
Ventura	1,752	11	0.63	946	1	0.10	2,698	12	0.44
Sonoma	867	5	0.58	640	4	0.63	1,507	9	0.59
Marin	1,049	7	0.67	488	3	0.61	1,537	10	0.65
Kern	2,231	20	0.90	952	4	0.42	3,183	24	0.75
Santa Cruz	489	5	1.02	311	1	0.32	800	6	0.75
Riverside	1,827	16	0.88	1,305	9	0.69	3,132	25	0.80
Solano	844	11	1.30	492	--	--	1,336	11	0.82
Butte	505	3	0.59	339	4	1.18	844	7	0.83
San Bernardino	3,247	41	1.26	2,141	7	0.33	5,388	48	0.89
Amador	66	1	1.52	42	--	--	108	1	0.93
Monterey	1,143	16	1.40	733	2	0.27	1,876	18	0.96
Yuba	270	4	1.48	99	--	--	369	4	1.08
Humboldt	604	10	1.66	370	1	0.27	974	11	1.13
Placer	438	6	1.37	229	3	1.31	667	9	1.35
Colusa	69	1	1.45	70	1	1.43	139	2	1.44
Stanislaus	1,093	20	1.83	504	3	0.60	1,597	23	1.44
Sutter	226	4	1.50	129	2	1.55	395	6	1.52
Fresno	2,355	48	2.04	1,456	15	1.03	3,811	63	1.65
Imperial	561	9	1.60	215	4	1.86	776	13	1.68
Glenn	136	1	0.74	77	3	3.89	213	4	1.88
Lake	87	1	1.15	61	2	3.28	148	3	2.03

* Less than 0.01 percent.

Table 3—Continued

Number and Percent of Teachers Serving on Emergency Provisional Standard Credentials in Various Counties, 1964–65

County	Type of elementary credential			Type of high school credential			Total credentials, elementary through high school		
	Regular	Provisional	Percent	Regular	Provisional	Percent	Regular	Provisional	Percent
Kings	429	12	2.80	184	1	0.54	613	13	2.12
Shasta	500	10	2.00	205	6	2.93	705	16	2.27
Del Norte	124	3	2.42	42	1	2.38	166	4	2.41
Inyo	107	4	3.74	58	--	--	165	4	2.42
San Benito	103	4	3.88	42	--	--	145	4	2.76
Lassen	104	4	3.85	72	1	1.39	176	5	2.84
Tulare	1,172	37	3.16	505	11	2.18	1,677	48	2.86
Madera	282	12	4.26	121	--	--	403	12	2.98
Merced	725	37	5.10	316	5	1.58	1,041	42	4.03
Siskiyou	239	12	5.02	140	4	2.86	379	16	4.22
Modoc	57	4	7.02	25	--	--	82	4	4.88
Calaveras	61	4	6.56	38	1	2.63	99	5	5.05
Mendocino	265	23	8.68	199	6	3.02	464	29	6.25
Mono	19	2	10.53	12	--	--	31	2	6.45
Mariposa	33	3	9.09	13	--	--	46	3	6.52
Trinity	62	5	8.06	28	1	3.57	90	6	6.67
Tuolumne	105	11	10.48	57	1	1.75	162	12	7.41
Sierra	17	2	11.80	18	1	5.56	35	3	8.57
Total	88,982	524	0.59	58,512	154	0.26	147,494	678†	0.46

† Three provisional standard junior college credentials were issued. The total given does not include these.

percent can be attributed to resignations, 2.1 percent to leaves of absence, 1 percent to retirement, 0.6 percent to dismissals, 0.5 percent to changes in nonteaching assignments, and 0.1 percent to death.

Table 4 shows the number of teachers needed for replacements and for meeting increased enrollments when school opens in September, 1965. An estimated 18,720 new teachers will have to be recruited, and approximately 10,660 interdistrict shifts will occur among currently employed teachers. Of the 18,720 new teachers needed, 12,200 or 65.2 percent will be needed in elementary schools. Approximately 63 percent of the total need may be attributed to replacement.

Estimated Demand for High School Teachers by Subject Field

Each year during the period from 1957 through 1962, superintendents of school districts maintaining high schools and junior high

Table 4

Estimated Number of Elementary and High School Teachers Needed for Replacements and for Meeting Increased Enrollments by September, 1965, and Cause of Need

School level	Death	Retirement	Resignation	Leave	Dismissal	Shift to nonteaching assignment	Increased enrollment	Interdistrict shift[1]	Total
Elementary	90	850	3,420	1,790	510	430	5,110	(6,380)	12,200
High school	60	570	2,290	1,200	340	290	1,770	(4,280)	6,520
Total	150	1,420	5,710	2,990	850	720	6,880	(10,660)	18,720

[1] Not included in totals.

schools were asked to report the number of full-time equivalent teachers serving in various subject fields. At the same time, the superintendents estimated each year their needs for new teachers in the subsequent year. The needs so estimated were divided into two groups: (1) those necessary to replace current staff; and (2) those needed to provide for increased enrollments and curricular expansion. The "distribution index" utilized in Table 5 to estimate the distribution of 1964–65 staff was derived from the reports presented by district superintendents of schools. A similar derivation from the same reports resulted in the "replacement index" and the "increased enrollment and curricular expansion index."

Attention is called to the fact that these data relate only to full-time teachers. No current information is available, and no projections have been made concerning substitute or part-time teachers.

Table 5

Estimated Number and Percent of Full-time Equivalent High School Teachers Regularly Employed in Selected Subject Fields, 1964–65, and the Estimated Additional Number and Percent Needed in Each Field, 1965–66

Subject field	Staff distribution		Staff replacement		Increased enrollment and curriculum expansion		New teachers needed for replacement and for increased enrollment and curriculum expansion		All vacancies occurring	
	Distribution index[1]	Estimated distribution of 1964–65 staff	Replacement index (percent)	Number of replacements	Including enrollment and curriculum expansion index (percent)	Number to meet increased service	Total new teachers	Percent distribution of new teachers	Number of interdistrict shift replacements[2]	Distribution of all vacancies
Agriculture	0.7	410	0.7	30	0.2	5	35	0.5	30	65
Art	3.5	2,048	3.2	150	3.4	60	210	3.2	140	350
Business education	6.2	3,628	5.7	270	5.4	90	360	5.5	240	600
English-related fields	19.3	11,293	22.9	1,090	20.3	360	1,450	22.2	980	2,430
Foreign languages	5.6	3,277	5.7	270	6.3	120	390	6.0	240	630
Homemaking	4.5	2,633	5.4	260	3.9	70	330	5.1	230	560
Industrial arts	7.5	4,388	4.7	220	5.5	100	320	4.9	200	520
Mathematics	12.1	7,080	12.0	570	14.4	250	820	12.6	510	1,330
Music	3.4	1,989	3.6	170	2.9	50	220	3.4	150	370
Physical education (men)	6.6	3,862	4.3	200	5.4	100	300	4.6	190	490
Physical education (women)	6.0	3,511	8.6	410	5.8	100	510	7.8	370	880
Sciences	8.4	4,915	8.4	400	8.6	150	550	8.4	360	910
Social sciences	15.4	9,011	14.0	670	17.2	300	970	14.9	600	1,570
Trade-technical	0.5	292	0.4	20	0.4	10	30	0.5	20	50
Other	0.3	175	0.4	20	0.3	5	25	0.4	20	45
Total	100.0	58,512	100.0	4,750	100.0	1,770	6,520	100.0	4,280	10,800

[1] Based on reports of superintendents of schools, 1958–1962.
[2] Replacement index used for distribution.

Supply of Certificated Personnel

The principal source of supply of the 18,720 additional teachers needed by California elementary and high schools and junior colleges in September, 1965, is the group of students in California teacher education institutions who were candidates for credentials during the 1964–65 school year. Other sources of supply which must be utilized include: (1) teachers prepared in teacher education institutions outside the state; (2) persons not now teaching who formerly taught or were prepared for teaching; and (3) persons not fully qualified for regular credentials who will serve on provisional credentials.

Graduates of California Teacher Education Institutions

Each year officials of the accredited teacher education institutions in California are asked to report the number of candidates expected to complete credential requirements during the reporting year and to estimate the number expected to complete requirements during the succeeding year.

Officials in California teacher education institutions estimated that 12,153 persons would complete credential requirements during the period from September 1, 1964, to August 31, 1965.[2] Of this number 7,074 were expected to qualify for teaching in elementary schools and 5,079 for teaching in high schools.

Table 6 shows clearly the relationship between supply and demand as estimated for the school year 1965–66. Severe shortages of persons with teaching majors are predicted for the following subject areas: business education, English, foreign languages, homemaking, industrial arts, mathematics, physical education (women), and science. An oversupply of candidates is predicted for the following subjects: agriculture, art, physical education (men), and social sciences.

The supply of teachers graduating each year from California colleges and universities is limited to the number of candidates who will actually accept positions in California public schools. Not all persons who complete credential requirements each year seek or can obtain teaching positions. Records show that a substantial number do not enter teaching. However, all new college and university teacher education graduates who do not accept teaching positions by September of each year are not permanently lost to the teaching profession. Some may continue to do graduate work, others accept positions after September, and still others may go into teaching a year or several years

[2] This estimate includes candidates who may already have held valid California credentials.

later. The exact number of persons lost permanently to the teaching profession cannot be determined through the sources available.

Recent experience indicates that slightly more than 80 percent of each year's credential candidates may be expected to accept teaching positions for the school year following their graduation. Although not reflected in Table 6, the existing imbalance between supply and demand will likely be further intensified by this loss. The available supply of new teachers prepared in California colleges and universities is likely to be approximately 9,720, rather than 12,153. It is estimated that approximately 52 percent of the new teachers needed will be prepared by California institutions and will be available for the 1965–66 school year.

Teachers Prepared Out of State

Previous supply and demand studies showed that approximately one half of the total number of persons who were granted California cre-

Table 6

Number of Candidates for Credentials Expected to Complete Preparation in California Teacher Education Institutions to Meet the Estimated Need for September, 1965

School subject or level	Number of credential candidates[1]	Estimated need for teachers	Oversupply or undersupply as a percent of need	
			Number	Percent
High school teachers	49	35	14	40.0 over
Art	256	210	46	21.9 over
Business education	161	360	—199	55.3 under
English	825	1,450	—625	43.1 under
Foreign languages	296	390	—94	24.1 under
Homemaking	189	330	—141	42.7 under
Industrial arts	206	320	—114	35.6 under
Mathematics	255	820	—565	68.9 under
Music	207	220	—13	5.9 under
Physical education (men)	361	300	61	20.3 over
Physical education (women)	202	510	—308	60.4 under
Science	334	550	—216	39.3 under
Social science	1,050	970	80	8.2 over
Other	688	55	--	----
Subtotals				
High school teachers	*5,079*	*6,520*	*—1,441*	*22.1 under*
Elementary teachers	*7,074*	*12,200*	*—5,126*	*42.0 under*
Total teachers	12,153	18,720	—6,567	35.1 under

[1] Expected to complete preparation between September 1, 1964, and August 31, 1965, with majors in these subjects or levels.

dentials each year were prepared in out-of-state institutions. Records in the Certification Office in the State Department of Education show that 41,862 persons were issued teaching credentials on an initial basis. Of these, 17,883 or 43 percent were classified as having been prepared in out-of-state institutions. Similarly, of 35,159 credentials issued initially during the 1962–63 fiscal year, 15,019 or 43 percent were issued to persons prepared out of state. Obviously, California public schools will continue to be dependent on an influx of teachers prepared in other states.

New Teachers and Those Returning to Teaching

Each year many persons return to the teaching profession after an absence of one or more years. In previous years this number has been between 2 and 3 percent of the previous year's staff. Assuming the same proportion of teachers will return to teaching, this source of supply will yield between 3,080 and 4,630 teachers for the 1965–66 school year.

Teachers Who Do Not Qualify for Regular Credentials

A complication of the teacher supply-demand relationship is the fact that the state as a whole may have a surplus of fully certificated teachers; yet, particular and widely separated parts of the state may experience severe shortages. A second complication is the fact that possession of a regular credential does not guarantee the holder to be a competent and qualified teacher.

As shown in Table 3, emergency provisional credentials totaling 681 were granted for the 1964–65 school year. Minimum requirements for granting such credentials were 90 semester hours of college work for elementary certification and a bachelor's degree for secondary certification. In addition to these emergency provisional credentials, at least 15,000 teachers held valid provisional credentials, an indeterminate number of whom were continuing to serve satisfactorily. It is estimated that a minimum of 8,000 teachers were serving on provisional credentials during 1964–65. Replacing these teachers, as well as meeting the other needs for replacement and increased enrollment, would require the recruitment of nearly 27,000 new teachers for September, 1965.

Need for Teachers, 1965–1975

During the ten-year period, 1965–66 through 1974–75, California will need approximately 215,240 new teachers—130,300 at the elementary level and 84,940 at the high school level. This is an annual average of 13,030 elementary teachers and 8,494 high school teachers.

In the next decade the number of elementary teachers to be prepared and recruited will be approximately one and one-half times the number of all elementary teachers employed in 1964–65. A similar recruitment task is posed at the high school level.

Number of New Teachers Needed Because of Expected Increases in School Enrollment

Projections of school enrollments utilized in this study were developed by the Financial and Population Research Section of the Department of Finance.[3] On October 31, 1964, there were 4,089,343 pupils enrolled in California elementary schools and high schools, exclusive of junior college and adult enrollment. Department of Finance estimates show that by October 31, 1974, there will be 5,503,660 pupils enrolled, including 232,560 pupils in special education classes. This constitutes an increase of 1,414,317 or 34.6 percent and is an average enrollment increase of approximately 141,430 pupils per year.

On the basis of pupil-teacher ratios derived from enrollments and numbers of teachers employed from 1959 to 1965, it is estimated that approximately 60,750 new teachers will be needed during the 1965–1975 decade because of increased enrollments. The pupil-teacher ratios projected in this study range between 30.5 to 1 and 30.1 to 1 for elementary schools and 24.8 to 1 and 25.0 to 1 for high schools. Table 7 shows the data on which these estimates are based.

It should be emphasized that these estimates are based solely on current pupil-teacher ratios. The numbers of additional elementary teachers needed to secure pupil-teacher ratios more favorable than the current 30.5 for regular classes in 1965–66 are shown in the following tabulation:

Pupil-teacher ratio	*Additional elementary teachers needed*
29:1	4,610
28:1	7,960
27:1	11,550
26:1	15,430
25:1	19,610

[3] *California Population—1964*, Department of Finance, Budget Division, Financial and Population Research Section, Sacramento, 1964.

Table 7

Enrollment for School Years 1959–60 Through 1974–75 Showing the Number of Teachers Required at Each Educational Level to Secure the Pupil-Teacher Ratios Reported in Regular Classes and in Special Education

School year	ELEMENTARY GRADES								
	Regular classes			Special Education[1]			Total elementary		
	Enrollment	Teachers	Ratio	Enrollment	Teachers	Ratio	Enrollment	Teachers	Ratio
1959–60	2,157,462	67,959	31.7	32,106	2,299	14.0	2,189,568	70,258	31.2
1960–61	2,248,673	70,858	31.7	35,530	2,554	13.9	2,284,203	73,412	31.1
1961–62	2,337,950	74,002	31.6	39,968	2,877	13.9	2,377,918	76,879	30.9
1962–63	2,429,791	77,792	31.2	42,977	3,098	13.9	2,472,768	80,890	30.6
1963–64	2,522,696	81,389	31.0	45,999	3,313	13.9	2,568,695	84,702	30.3
1964–65	2,605,329	85,404	30.5	49,462	3,578	13.8	2,654,791	88,982	29.8
Projected									
1965–66	2,718,460	89,130	30.5	64,040	4,960	12.9	2,782,500	94,090	29.6
1966–67	2,800,220	91,810	30.5	76,330	6,060	12.6	2,876,550	97,870	29.4
1967–68	2,876,320	94,620	30.4	87,880	7,090	12.4	2,964,200	101,710	29.1
1968–69	2,938,160	96,650	30.4	100,020	8,180	12.2	3,038,180	104,830	29.0
1969–70	2,998,330	98,950	30.3	114,110	9,450	12.0	3,112,440	108,400	28.7
1970–71	3,055,250	100,830	30.3	127,900	10,700	11.9	3,183,150	111,530	28.5
1971–72	3,116,510	103,200	30.2	141,440	11,920	11.9	3,257,950	115,120	28.3
1972–73	3,175,860	105,160	30.2	153,650	13,030	11.8	3,329,510	118,190	28.2
1973–74	3,242,310	107,720	30.1	164,000	13,950	11.8	3,406,310	121,670	28.0
1974–75	3,311,590	110,020	30.1	174,420	14,880	11.7	3,486,010	124,900	27.9

School year	HIGH SCHOOL[2]								
	Regular classes			Special education[1]			Total high school		
	Enrollment	Teachers	Ratio	Enrollment	Teachers	Ratio	Enrollment	Teachers	Ratio
1959–60	990,476	40,363	24.5	10,701	767	14.0	1,001,177	41,130	24.3
1960–61	1,072,055	43,237	24.8	11,843	851	13.9	1,083,898	44,088	24.6
1961–62	1,153,460	45,684	25.2	13,322	959	13.9	1,166,782	46,643	25.0
1962–63	1,247,162	49,507	25.2	14,325	1,032	13.9	1,261,487	50,539	25.0
1963–64	1,344,309	53,322	25.2	15,332	1,104	13.9	1,359,641	54,426	25.0
1964–65	1,418,065	57,319	24.7	16,487	1,193	13.8	1,434,552	58,512	24.5

School year	Regular classes Enrollment	Regular classes Teachers	Regular classes Ratio	Special education[1] Enrollment	Special education[1] Teachers	Special education[1] Ratio	Total kindergarten through grade twelve Enrollment	Total kindergarten through grade twelve Teachers	Total kindergarten through grade twelve Ratio
				SUMMARY OF ELEMENTARY AND HIGH SCHOOL ENROLLMENTS					
1959–60	3,147,938	108,322	29.1	42,807	3,066	14.0	3,190,745	11,388	28.6
1960–61	3,320,728	114,095	29.1	47,373	3,405	13.9	3,368,101	117,500	28.7
1961–62	3,491,410	119,686	29.2	53,290	3,836	13.9	3,544,700	123,522	28.7
1962–63	3,676,953	127,299	28.9	57,302	4,130	13.9	3,734,255	131,429	28.4
1963–64	3,867,005	134,711	29.1	61,331	4,417	13.9	3,928,336	139,128	28.2
1964–65	4,023,394	142,723	28.2	65,949	4,771	13.9	4,089,343	147,494	27.7
Projected									
1965–66	4,172,580	147,760	28.2	85,390	6,610	12.9	4,257,970	154,370	27.6
1966–67	4,312,610	152,790	28.2	101,760	8,080	12.6	4,414,370	160,870	27.4
1967–68	4,447,590	157,980	28.2	117,170	9,450	12.4	4,564,760	167,430	27.3
1968–69	4,578,020	162,770	28.1	133,360	10,910	12.2	4,711,380	173,680	27.1
1969–70	4,701,810	167,360	28.1	152,150	12,600	12.1	4,853,960	179,960	27.0
1970–71	4,818,230	171,630	28.1	170,530	14,270	12.0	4,988,760	185,900	26.8
1971–72	4,933,120	176,160	28.0	188,590	15,900	11.9	5,121,710	192,060	26.7
1972–73	5,043,940	180,180	28.0	204,870	17,380	11.8	5,248,810	197,560	26.6
1973–74	5,160,990	184,470	28.0	218,670	18,600	11.8	5,379,660	203,070	26.5
1974–75	5,271,100	188,400	28.0	232,560	19,840	11.7	5,503,660	208,240	26.4

[1] From data supplied by the Bureau of Special Education.
[2] Includes junior high schools.

While attention is directed here to the pupil-teacher ratio problem, the numbers of teachers needed to secure a more favorable ratio are not included in the estimates of total need for teachers shown elsewhere in this study.

Number of New Teachers Needed for Replacements

Recent experience indicates that approximately 15.8 percent of the teachers employed during any school year will not be available for employment in the same school district the next year. In fact, 8.3 percent will not be available for employment in California teaching positions at all; while the remaining 7.5 percent will make interdistrict transfers in California. On the basis of the reports cited earlier, this 8.3 percent replacement factor is made up of resignations (4 percent), leaves of absence (2.1 percent), retirement (1 percent), dismissals (0.6 percent), death (0.1 percent), and changes to nonteaching assignments (0.5 percent).

Table 8 shows the estimated number of replacements to be made each year during the decade, 1965–1975. This replacement need of 154,490 is made up of 94,380 elementary teachers and 60,110 high school teachers. A summary of the replacement needs according to cause is presented in Table 9. A specific breakdown of the replacement needs in special education was not possible.

Table 8

Estimated Number of Elementary and High School Teaching Vacancies for Which Replacements Must Be Employed Each Year, 1965–66 to 1974–75

School year	Elementary schools			High schools		
	Regular classes	Special education	Total	Regular classes	Special education	Total
1965–66	7,090	650	7,740	4,750	220	4,970
1966–67	7,400	820	8,220	4,860	280	5,140
1967–68	7,620	940	8,560	5,060	320	5,380
1968–69	7,850	1,090	8,940	5,250	360	5,610
1969–70	8,030	1,290	9,320	5,490	430	5,920
1970–71	8,210	1,450	9,660	5,680	480	6,160
1971–72	8,360	1,620	9,980	5,870	540	6,410
1972–73	8,570	1,780	10,350	6,050	570	6,620
1973–74	8,730	1,910	10,640	6,230	630	6,860
1974–75	8,950	2,020	10,970	6,370	670	7,040
Total	80,810	13,570	94,380	55,610	4,500	60,110
10-year average	8,080	1,360	9,440	5,560	450	6,010

Table 9

Estimated Number of Teaching Positions to Be Vacated and for Which Replacements Will Be Needed During the 1965–1975 Period

Cause of vacancy	Level of vacancy		Total vacancies
	Elementary	High school	
Regular classes			
Resignation	38,950	26,800	65,750
(Interdistrict shift)	(73,020)	(50,230)	(123,250)
Leave of absence	20,450	14,080	34,530
Retirement	9,740	6,700	16,440
Dismissal	5,830	4,020	9,850
Shift to nonteaching assignment	4,870	3,340	8,210
Death	970	670	1,640
Special education replacements	13,570	4,500	18,070
Total	94,380	60,110	154,490
Annual average	9,440	6,010	15,450
Total, including interdistrict shift	(167,400)	(110,340)	(277,740)
Annual average	(16,740)	(11,030)	(27,770)

In addition to these replacement needs, many teachers transfer from one district to another. Table 10 shows the estimates of this shifting, but the significance of this mobility has not been reflected in overall predictions.

Table 10

Estimated Number of Teachers Who Will Make Interdistrict Transfers Within California Each Year, 1965–66 to 1974–75

School year	Elementary teachers	High school teachers	Total
1965–66	6,380	4,280	10,660
1966–67	6,670	4,420	11,090
1967–68	6,900	4,580	11,480
1968–69	7,120	4,720	11,840
1969–70	7,270	4,950	12,220
1970–71	7,420	5,100	12,520
1971–72	7,570	5,320	12,890
1972–73	7,720	5,470	13,190
1973–74	7,870	5,620	13,490
1974–75	8,100	5,770	13,870

Summary of New Teachers Needed

Estimates of the demand for new teachers each year, 1965–66 through 1974–75, are shown in Table 11. On the basis of these projections, California will need an average of 21,520 teachers per year through the decade ending with 1974–75.

This estimate of need for teachers is based largely on the current status and does not reflect the number of teachers that would be needed if an improvement in pupil-teacher ratios were to be obtained and maintained. No consideration has been given to the needs which would result from replacement of persons not fully qualified. Attainment of either or both of these goals would necessitate the recruitment of a considerably larger number of teachers.

Table 11

Estimated Number of New Elementary and High School Teachers Needed for Replacements and to Meet Increased Enrollments Each Year, 1965–66 to 1974–75

School year	Number of teachers needed						
	Elementary school			High school			
	Replacement	Enrollment increases	Total	Replacement	Enrollment increases	Total	Total
1965–66	7,740	5,110	12,850	4,970	1,770	6,740	19,590
1966–67	8,220	3,780	12,000	5,140	2,720	7,860	19,860
1967–68	8,560	3,840	12,400	5,380	2,720	8,100	20,500
1968–69	8,940	3,120	12,060	5,610	3,130	8,740	20,800
1969–70	9,320	3,570	12,890	5,920	2,710	8,630	21,520
1970–71	9,660	3,130	12,790	6,160	2,810	8,970	21,760
1971–72	9,980	3,590	13,570	6,410	2,570	8,980	22,550
1972–73	10,350	3,070	13,420	6,620	2,430	9,050	22,470
1973–74	10,640	3,480	14,120	6,860	2,030	8,890	23,010
1974–75	10,970	3,230	14,200	7,040	1,940	8,980	23,180
Total	94,380	35,920	130,300	60,110	24,830	84,940	215,240
Average need per year	9,440	3,590	13,030	6,010	2,480	8,490	21,520

Supply of Teachers, 1965–1975

Whether or not California will be able to meet the demand for new teachers during the 1965–1975 decade will depend in large measure upon the number of teachers that California colleges and universities will be able to prepare. Other sources of supply which will be utilized include: (1) teachers who return to teaching after one or more year's absence from teaching; and (2) teachers recruited from out of state.

The Total Supply from California Teacher Education Institutions

To estimate the future supply of new teachers, the number of candidates prepared in California teacher education institutions for the most recent seven-year period was compared with the total enrollment in the institutions. Projections of college and university enrollments, combined with ratios of credential candidates to enrollments, provide an appropriate means for predicting the available supply of teachers.

During the 1964–65 school year, there were 47 colleges and universities in California accredited for teacher education by the State Board of Education. These accredited teacher education institutions were classified as : (1) state colleges; (2) independent colleges and universities; and (3) the University of California. The state college system had accredited teacher education programs at 13 colleges; 29 independent colleges and universities were preparing teachers; and the University of California was preparing teachers on five campuses—Berkeley, Davis, Los Angeles, Riverside, and Santa Barbara.

Table 12 shows the relationship between the number of teachers prepared and the total enrollment in the three types of institutions. The projections of numbers of credential candidates for 1965–66 and 1966–67 were based directly on the experience of the previous six years. Projections beginning 1967–68 reflect an estimated change expected to result from the change in certification requirements mandated by the Certificated Personnel Law of 1961, based on the most conservative estimates of the impact of the law as provided by colleges and universities.

The number of elementary credential candidates estimated for 1967–68 was reduced by one third, and the number of secondary credential candidates was increased by approximately 40 percent, which represented an increase equivalent to approximately 80 percent of the predicted loss of elementary candidates. It is estimated, therefore, that the number of persons expected to complete credential requirements in California teacher education institutions from 1965 through 1975 is 146,503.

Table 12

Fall Full-time Enrollments in Teacher Education Institutions and the Number of Teaching Credential Candidates, 1959–1965; Projected 1965–1975 [1]

School year	Enrollments in teacher education institutions				Number of credential candidates and percent of enrollment in teacher education institutions					
					Elementary		High school		All candidates	
	State colleges	Independent institutions	University of California	Total	Number	Percent	Number	Percent	Number	Percent
Reported										
1959–60	49,314	33,357	42,775	125,446	5,514	4.4	4,150	3.3	9,664	7.7
1960–61	56,309	35,947	46,747	139,003	5,080	3.7	3,327	2.4	8,407	6.1
1961–62	63,986	38,912	51,726	154,624	5,297	3.4	3,289	2.2	8,586	5.6
1962–63	71,367	42,846	55,860	170,073	5,849	3.4	3,396	2.0	9,245	5.4
1963–64	80,021	45,900	61,716	187,637	7,516	4.0	3,939	2.1	11,455	6.1
1964–65	92,454	48,980	68,543	209,987	7,074	3.4	5,079	2.4	12,153	5.8
Projected										
1965–66	95,000	51,000	75,925	221,925	7,540	3.4	5,330	2.4	12,870	5.8
1966–67	103,075	53,100	83,625	239,800	8,150	3.4	5,750	2.4	13,900	5.8
1967–68	112,250	55,200	89,275	256,725	5,390	2.1	7,960	3.1	13,350	5.2
1968–69	121,100	57,400	94,000	272,500	5,720	2.1	8,450	3.1	14,170	5.2
1969–70	128,475	59,700	98,350	286,525	6,300	2.2	8,600	3.0	14,900	5.2
1970–71	134,475	62,700	102,625	299,800	6,600	2.2	8,690	2.9	15,290	5.1
1971–72	140,050	65,000	106,150	311,200	7,160	2.3	9,020	2.9	16,180	5.1
1972–73	146,550	67,200	110,125	323,875	7,450	2.3	9,070	2.8	16,520	5.1
1973–74	153,250	69,300	114,200	336,750	8,080	2.4	9,090	2.7	17,170	5.1

[1] Projected enrollments supplied by the Department of Finance, Financial Population Research Section.

Close attention will be given to the actual effect of the new certification requirements in terms of these predictions. It appears likely at this time, however, that the total number of elementary credential candidates may be reduced even further. No attempt has been made in this study to determine the effects of impending and possible changes in California's system of higher education.

Estimated Available Supply of New and Returning Teachers

As stated previously, not all students who qualify for teaching credentials each year will actually accept teaching positions. Estimates of the number who will begin teaching are based on reports of placement officers in California teacher education institutions. This can be termed the "available" supply.

Table 13 shows the estimated number of new graduates who are expected to start teaching in California each year from 1965–66 through 1974–75. It can be seen that of approximately 146,500 graduating during the decade, only 117,210 will be considered a part of the available supply. This is an average of 11,720 per year.

During the period 1958–1962 county superintendents of schools reported the number of teachers who returned to teaching after absences of one or more years. On the basis of this information, it is estimated that 32,880 such persons will return to teaching during the next decade, an average of 3,290 returnees per year. It should be noted that the number of teachers returning to teaching each year will be affected by changes in the California economy, the complexity of certification requirements, and other unassessable factors.

The total available supply of teachers, exclusive of teachers recruited from other states, for the ten-year period from 1965–66 through 1974–75 is estimated to be 150,090, an average per year of 15,010 new and returning teachers.

Table 13

Estimated Demand for New Teachers Compared With Available Supply of New and Returning Teachers, 1965–1975

School year	Estimated number of credentialed candidates graduating in previous year	Estimated number of credentialed candidates who will accept positions	Estimated number of teachers returning after absence[1]	Estimated total available supply	Estimated number of new teachers needed	Difference between supply and demand
1965–66	12,153	9,720	2,850	12,570	19,590	—7,020
1966–67	12,870	10,300	2,960	13,260	19,860	—6,600
1967–68	13,900	11,120	3,060	14,180	20,500	—6,320
1968–69	13,350	10,680	3,160	13,840	20,800	—6,960
1969–70	14,170	11,340	3,260	14,600	21,520	—6,920
1970–71	14,900	11,920	3,350	15,270	21,760	—6,490
1971–72	15,290	12,230	3,430	15,660	22,550	—6,890
1972–73	16,180	12,940	3,520	16,460	22,470	—6,010
1973–74	16,520	13,220	3,600	16,820	23,010	—6,190
1974–75	17,170	13,740	3,690	17,430	23,180	—5,750
Total	146,503	117,210	32,880	150,090	215,240	—65,150
Annual average	14,650	11,720	3,290	15,010	21,520	—6,510

[1] Estimated, based on previous records, at two percent of previous year's staff.

Supply and Demand Relationship, 1965–66 Through 1974–75

Demands for more teachers may be classified into two types—those which will likely be met and those which are most likely to continue. Particular attention has been given in this study to needs most likely to be met—the need to replace teachers who are no longer available for employment and the need for additional teachers to serve increased enrollments and provide for curricular expansion. During the decade from 1965–66 through 1974–75, it is estimated that 215,240 new teachers will be needed to meet these particular demands.

The establishment and maintenance of a more favorable pupil-teacher ratio and the elimination of all substandard certification would require the recruitment of substantially more new teachers during the decade. Approximately 22,440 more elementary teachers would have to be employed in 1974–75 to achieve in that year a pupil-teacher ratio of 25 to 1 at the elementary level.

The total supply of new teachers for any given year is made up of: (1) persons who completed teaching credential requirements in California institutions during the previous year; (2) teachers who return to teaching after an absence of one or more years; and (3) persons recruited from other sources—primarily out of state. It is estimated that approximately 146,500 persons will qualify for teaching credentials in California teacher education institutions in the next decade. Of this number, 117,210 are expected to be available to teach. An additional 32,880 teachers are expected to return to teaching. Thus, the available supply of new and returning teachers from 1965 through 1975 is expected to be 150,090. This is an annual average of 15,010.

On the basis of these data, and as shown in Table 13, the available supply of teachers will be approximately 65,150 fewer than needed by California from 1965 to 1975, an average annual deficit of 6,510 teachers. This difference between demand and supply each year will have to be met by recruiting teachers from other states and by securing the services of persons who do not qualify for regular credentials. A considerably larger annual need would have to be met if pupil-teacher ratios were to be improved or if substandard certification were to be eliminated. In view of the estimated available supply of teachers, it is unlikely that major changes in the number of provisionally certificated persons or in pupil-teacher ratios can be accomplished in the near future.

Junior College Staffing, 1965–1975

The staffing problems of California's public junior colleges are inherently different from those of the elementary and high schools. Factors which are particularly complicating include: (1) the large number of junior college teachers rendering service less than full time; (2) the effect which the shifting of enrollments among segments of higher education may have; (3) the unique role of the junior colleges; and (4) the different sources of supply of junior college teachers not generally available to elementary schools and high schools.

Demand for Junior College Teachers, 1965–1966

In the fall of 1964, there were 7,294 full-time junior college teachers and an estimated 4,628 part-time teachers, or a total of 11,922 teachers in the 74 public junior colleges in California, as shown in Table 14.

On the basis of reports supplied from junior colleges from 1958 through 1962, a replacement factor of 12.1 percent of the previous year's staff was derived; for the 1964–65 full-time staff, that in-

Table 14

Actual and Projected Enrollment and Teachers in California Public Junior Colleges, 1961–1975

School year	Full-time enrollment	Total enrollment exclusive of adults	Total enrollment index	Full-time teachers	Ratio full-time teachers to full-time enrollment	Estimated total teachers including part-time
Actual[1]						
1961–62	112,636	175,570	1.56	5,542	20.32	8,640
1962–63	121,283	197,828	1.63	6,074	19.97	9,906
1963–64	128,221	221,008	1.72	6,464	19.84	11,140
1964–65	152,401	249,178	1.64	7,294	20.90	11,922
Projected						
1965–66	172,150	282,330	1.64	8,500	20.26	13,940
1966–67	184,500	302,580	1.64	9,110	20.26	14,930
1967–68	191,350	313,810	1.64	9,440	20.26	15,490
1968–69	195,125	320,000	1.64	9,630	20.26	15,790
1969–70	204,625	335,590	1.64	10,100	20.26	16,560
1970–71	216,200	354,570	1.64	10,670	20.26	17,500
1971–72	226,350	371,210	1.64	11,170	20.26	18,320
1972–73	237,525	389,540	1.64	11,720	20.26	19,230
1973–74	242,300	397,370	1.64	11,960	20.26	19,610
1974–75	256,875	421,280	1.64	12,680	20.26	20,790

[1] From the Bureau of Research's annual report, *Enrollment in California Public Schools.*

dicated a need for approximately 780 new teachers, as can be calculated from Table 14. Coupled with the need for 830 teachers to serve increased enrollments, at least 1,610 of the 7,294 full-time junior college teachers in 1964–65 were new to their positions. Without reference to the part-time faculty, among which must certainly have been an even higher replacement rate, it is seen that 22 percent, or more than one in five full-time junior college teachers, were new to their particular assignments in that year.

One of the persistent problems confronting all segments of education is the task of trying to maintain stability within subject field departments, considering the large volume of replacements and additions to personnel. The number of new teachers expected to be employed for 1965–66 is shown in Table 15 as a percent of the number of total staff for 1964–65 in each of the selected subject fields. Those

Table 15

Number and Percent of Full-time Junior College Teachers Employed in Selected Subject Fields, 1964–65, and Projected Need by Subject Field, 1965–66

Subject field	Estimated staff distribution, 1964–65		Estimated distribution of new teachers needed, 1965–66		New teachers for 1965–66 as a percent of 1964–65 staff in each subject field
	Distribution index[1]	Number of teachers	Distribution index[1]	Number of new teachers	
Agriculture	0.9	66	0.7	15	22.7
Art	3.5	255	2.6	55	21.6
Biological science	4.8	350	2.2	45	12.9
Business education	10.6	773	15.3	320	41.4
English	13.2	963	18.1	375	38.9
Engineering	2.8	204	1.6	30	14.7
Foreign language	4.0	292	3.2	70	24.0
Homemaking	1.3	95	0.9	20	21.1
Industrial arts	1.2	88	1.2	25	28.4
Journalism	0.8	58	0.5	10	17.2
Mathematics	5.8	423	3.2	65	15.4
Music	3.0	219	2.6	55	25.1
Nursing education	3.0	219	2.1	45	20.5
Physical education (men)	5.4	394	2.9	60	15.2
Physical education (women)	3.2	233	3.3	70	30.0
Physical science	10.2	744	15.3	320	43.0
Psychology	2.9	212	1.7	35	16.5
Social science	10.5	766	11.6	240	31.3
Speech and drama	2.2	160	0.8	15	9.4
Trade and technical	9.9	722	8.3	175	24.2
Other	0.8	58	1.9	40	69.0
Total	100.0	7,294	100.0	2,085	28.6

[1] Based on reports from school superintendents, 1958–1962.

fields in which a greater than average percent of new teachers is expected include physical science, business education, English, social sciences, and women's physical education.

An indication of the kind of impact which can result from the shifting enrollments among higher education segments is seen in Table 14 in the dramatic increase between 1963 and 1964 of 24,180 students compared with an increase in enrollment of 6,938 between 1962 and 1963. This is a 19 percent increase for 1964 compared with a 6 percent increase the previous year. Similar irregularities in enrollment increases can be seen in the ten-year projections of enrollments. It seems likely that boards of trustee members and junior college administrators will want to study carefully the meanings of this irregular growth pace.

Supply of Junior College Teachers, 1964–1966

Particularly in need of scrutiny will be the educational preparation of new teachers recruited by junior colleges. In a staff report to the Coordinating Council for Higher Education,[4] information was presented concerning over 1,300 new junior college teachers employed for 1963–64. Of these teachers, 5 percent held doctorates, 78 percent held master's degrees, and 17 percent held bachelor's degrees only. Sixty percent of the new teachers were educated in California, and approximately eight out of ten new faculty members were recruited from within the field of education. Of this group of approximately 1,120 recruited from within the field of education, 44 percent were recruited from high school teaching positions.

As a part of this same staff study, junior college administrators were asked to indicate teaching fields in which they thought shortages of personnel had occurred or would occur. Present and future critical shortage areas mentioned most often were engineering, physics, nursing, mathematics, and chemistry. Table 15 shows the estimated distribution among subject fields of the new junior college teachers needed for 1965–66.

Supply of and Demand for Junior College Teachers, 1965–1975

On the basis of information given in Table 16, it can be seen that an estimated total of 17,455 new junior college teachers will be needed during the 1965–75 decade. An annual average of 1,750 teachers will be needed for replacement and to meet increased enrollments.

The supply of new junior college teachers is difficult to predict in terms of numbers. It is apparent, however, that a large share of the

[4] *Faculty Recruitment in California Education,* A Staff Report for Presentation to the Coordinating Council for Higher Education, February 22–23, 1965.

Table 16

Estimated Number of Full-time Junior College Teachers Needed as Replacements and to Meet Increased Enrollment, 1965–1975

School year	Number needed as replacements[1]						Total replacements	Increased enrollment	Total needs
	Resignation (7.2 percent)	Leave of absence (2.2 percent)	Retirement (1.4 percent)	Dismissal (0.4 percent)	Shift to nonteaching position (0.7 percent)	Death (0.2 percent)			
1965–66	525	160	100	30	50	15	880	1,205	2,085
1966–67	610	190	120	35	60	20	1,035	610	1,645
1967–68	655	200	130	40	65	20	1,110	330	1,440
1968–69	680	210	130	40	65	20	1,145	190	1,335
1969–70	690	210	135	40	70	20	1,165	470	1,635
1970–71	730	220	140	40	70	20	1,220	570	1,790
1971–72	770	235	150	40	75	20	1,290	500	1,790
1972–73	805	245	155	45	80	20	1,350	550	1,900
1973–74	845	260	165	45	80	25	1,420	240	1,660
1974–75	860	265	170	50	85	25	1,455	720	2,175
Total	7,170	2,195	1,395	405	700	205	12,070	5,385	17,455
Annual average	720	220	140	40	70	20	1,210	540	1,750

[1] Based on noted percents of previous year's staff derived from actual reports for 1958–1962.

total need will be met by recruiting from high school faculties. It appears likely, also, that a large number of the new junior college teachers needed will have to be recruited from out of state. The extent to which this will continue to be possible will depend on the competitive status maintained by California public junior colleges in terms of salaries, class load, and other professional conditions.

Teacher Supply and Demand: a Perspective

Securing and keeping well-qualified teachers for California's children and youth remains one of the most critical of problems in improving the quality of public education in California—indeed, in this nation. Contributing to the problem are many factors which do not yield to statistical analysis. It seems important that some of these contributing factors be identified.

The Effect of the Change in Certification Requirements

It appears that the school year 1967–68 will begin the critical years for the teacher supply for elementary schools. Present indications are that the number of college students declaring plans to prepare for elementary teaching is decreasing quite severely. Part of this decrease is likely to be diminished as accurate information about the new requirements replaces misunderstanding, misconception, and bias. Accomplishing this task will be much easier with California college students than with out-of-state students in institutions whose placement officers have already been advising California personnel directors that elementary teacher candidates will no longer be available for them to interview. One reason given for this shortage is the fact that California's requirement for a year of graduate work becomes at least two years for elementary teachers whose undergraduate preparation does not conform closely to that required in California.

The Effect of Federal Support and Encouragement of Special Programs

Programs of an educational nature in which the federal government has expressed interest lately have been of a type which would require much lower pupil-teacher ratios than current ones or of a type which would operate outside the public school structure. In either case the demand on the already limited pool of qualified teachers and other educational specialists may be greatly increased.

The Effect of Emphases and Mandates by the Legislature and the State Board of Education

Every new program mandated or old program extended requires additional staff. The large volume of personnel laws passed in 1961 has resulted in the need for increased central office personnel and vice-principals to carry out the complex requirements.

The mandate to teach foreign languages at the elementary school level has had a decided effect in the selection of new elementary teachers, and this mandate most certainly will add to the need for teachers prepared to teach foreign languages. Emphases which have been and will be placed on English, reading skills, new mathematics, the culturally disadvantaged, the educationally handicapped, statewide testing, and other phases of the educational scene have had and will continue to have the effect of skewing the distribution of total needs for personnel as well as increasing the needs numerically.

The Effect of Increasing Competition for Teaching Personnel Resulting from Expansion in Higher Education

The estimated growth of enrollments in the junior colleges, shown in Table 14, is indicative of the rising enrollments in higher education generally. Colleges and universities will probably continue to attract significant numbers of teachers from high school and even from elementary school staffs. This regular enrollment increase will provide the need for increasing numbers of new faculty members. The number of faculty additions needed will be increased even more as large numbers of students enroll in upper division and graduate courses in which student-faculty ratios are lower.

The extent to which new elementary and secondary teachers can be recruited from this increased enrollment will depend largely upon the attitude of college faculties toward teacher preparation.

The Effect of Increasing Competition for Qualified Personnel Resulting from Changes and Emphases in Business and Industry

The health of the economy and the segments of business and industry in which growth and change occur will have a considerable effect on teacher supply. The education required in virtually every occupational area is much the same for teaching personnel as for personnel in business and industry. In fact, business and industry have been interested in the past in employing teachers because of their behavioral sciences background.

Persons who pursue present credential majors requiring 24 semester hours of upper division or graduate work in single subjects may well be better suited to industry than to teaching in some subject areas. Examples of this can be found among students who have majored in mathematics, physics, and chemistry. Increased demands from business and industry for personnel trained in technical and vocational fields and business fields would also exert considerable pressure on the pool of teachers qualified in these areas. When business and industry recruit from education, the financial inducements are aimed at the best personnel. On the other hand, when education seeks to recruit personnel

from other sources—including business and industry—the financial inducements are geared to attract only less qualified personnel.

The Effect of Changes in the Level of Financial Support

The periodic infusions of financial support by the Legislature have always been accompanied by a decrease in the pupil-teacher ratio. Conversely, periods during which the Legislature has voted financial increases sufficient only to meet increased enrollments have found pupil-teacher ratios increasing or at least staying the same. Despite the fact that a massive lowering of class size would require an equally massive program of providing classrooms, changes are possible and desirable when adequate financial resources are available.

The Effect of Long-Range Teacher Recruitment Programs

For more than a decade, California has had an extensive teacher-recruitment program designed to attract youth and encourage them to consider teaching as a career. Coupled with this have been concerted efforts to: (1) encourage qualified teachers to return to teaching; (2) recruit from other professions through intern-type teacher education programs; (3) develop special projects designed to retain competent teachers; (4) raise the status of teaching as a profession; and (5) disseminate accurate information about teaching as a career. These activities, along with the out-of-state recruitment efforts of personnel directors, have helped make possible regular annual decreases in the number of teachers who have had to be employed on the basis of substandard credentials.

Perhaps the most important result of the long-range recruitment efforts is that they have brought disproportionately high increases in teacher education students as compared to all-college enrollment increases. The extent to which the recruitment programs can help meet the needs for teachers over the next decade remains to be seen.

The Effect of Teaching "Hardware" and Changes in Organization for Teaching

Much relief from the teacher shortage cannot likely be expected through teaching machines, other programmed materials, team teaching, or any of the new scheduling or organization for instruction. Such innovations will more likely require additional specialized personnel.

The Effect of Attitudes of College and University Faculty Members Toward Teacher Preparation

Of all the factors related to teacher supply during the next decade, the attitude of faculty members toward teacher preparation may well

be the most significant. Ample empirical evidence is available concerning the kind of advice which faculty members give to students majoring in their particular disciplines. An increasing number of faculty members have been advising their best students to consider fields other than teaching. The net result of such a perspective among faculty members is obvious.

The reasons for this kind of attitude are subject to speculation and differ, undoubtedly, among various faculty members. At a recent statewide meeting of teacher educators, an English teacher from a California state college candidly expressed his own reasons for encouraging his best students to prepare for some field other than teaching. Included among reasons he cited for giving this advice to potential English teachers were: (1) the number of students the English teacher is expected to serve is excessive and represents an impossible task; (2) salaries paid are not commensurate with the demands of the job; and (3) the nature of secondary school teaching is not particularly stimulating. Comments by college and university faculty members in other subject fields have been quite similar.

Much "lip service" has been given to the concept of institutionwide responsibility for recruiting, selecting, educating, and placing teachers. In a few California teacher education institutions, this concept is practiced with real results. Real changes in the attitudes of subject specialists will likely not be realized until the concept of all-faculty responsibility for teacher education is accepted much more broadly than at present.

Can Enough Teachers Be Recruited?

Our national income is at an all-time high. Hence, the financial resources are available to support competitive salaries, to provide for manageable teaching loads, and to secure satisfactory teaching conditions. College enrollments also are at an all-time high and will be increasing. Concerted efforts by all segments of education, in cooperation with interested parents, could secure for teaching a sizable increase in the number of students constituting this pool of manpower. This increase could come particularly from among the top students.

The extent to which California can achieve its goals of quality education for all will depend upon the emphasis placed upon securing and retaining qualified teachers.

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